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| EXAMINER | |
|---|---|
| LOFTIS, JOHNNA RONEE | |
| ART UNIT | PAPER NUMBER |
| 3623 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/884,821 | MALLON ET AL. | |
| | Examiner | Art Unit | |
| | JOHNNA R. LOFTIS | 3623 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-4,6,7,11-13 and 16-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,7,11-13 and 16-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. The following is a final office action upon examination of application number 09/884,821. Claims 1-4, 6, 7, 11-13 and 16-43 are pending and have been examined on the merits discussed below.

### *Response to Arguments*

2. Applicant's arguments with respect to claims 1, 2, 11, 12 and 16 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues claims as newly amended. Amendments to claims include clarification that the on-line interest data is used to model behavior of the on- and off-line population. Examiner would like to point out that it is old and well known that consumers use the internet as a research tool, only to make purchases from a traditional brick and mortar store. It would have been obvious to one of ordinary skill in the art to use on-line behavior data to model off-line behavior as a way to generate more accurate predictions of sales. Rejections are modified below.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4, 6, 7, 11-13, 16-24, and 26-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamayo et al. (U.S. 2002/0083067) in view of Fulgoni et al. (U.S. 7,181,412).

As per claim 1, Tamayo et al. teaches a method of predicting behavior of a population, the method comprising:

providing a modeling system configured to model aggregate behavior of an on-line population as a function of aggregate on-line interest data, the on-line interest data based on passive observation of on-line behavior of a subpopulation, wherein the on-line behavior is related to, but different than, the behavior to be modeled, and wherein the subpopulation comprises a subset of the on-line and of-line population, wherein the aggregate behavior to be modeled is aggregate economic activity (See figure 15, paragraphs 0034, 0036, 0039, 0058-9, 0065, 0086, 0112, 0136, 0157, 0229-30, 0234-5, 0239, wherein a modeling system is presented. The system is built to be able to collect data concerning the online behavior of a set of users of a website, and then the system is able to build models and make predictions for these and future users (i.e. the population) based on the data held in the system);

inputting to the modeling system on-line interest data related to a subject (See paragraphs 0037-9, 0056-8, 0068, 0071-2, 0080-1, 0084, 0112-5, wherein the users behavior is monitored and data concerning this behavior is input into the model to make predictions. The data is related to a subject (i.e. product that the user is likely to purchase). See also paragraphs 0136, 0138, 0151, 0157, and 0175);

generating, with the modeling system, a prediction of behavior of the on-line population related to the subject (See paragraphs 0070-3, 0084, 0097, 0114, 0136, 0138-9, 0151, 0157-8, 0225, wherein predictions are made concerning future behavior, specifically with regards to purchasing a product; also paragraphs 0060-0066 wherein on-line data is used to model attrition (inherently an off-line behavior) at a phone company).

However, while the system predicts behavior related to a subject for many users, Tamayo et al. does not expressly disclose predicting aggregate behavior of the population related to the subject.

Fulgoni et al. discloses profiling or generating scoring models wherein data sets are compared to broad demographic data sets to predict the overall probability of a certain internet activity such as buying a product or viewing a video, by all persons sharing that demographic.

Both Fulgoni et al. and Tamayo et al. disclose using past data concerning a customer to forecast behavior of customers at websites. Tamayo et al. specifically builds models that are applicable to aggregate customers. Fulgoni et al. teaches predicting aggregate behavior and population estimates for a population based on data obtained from a subset of the population. It would have been obvious to one of ordinary skill in the art at the time of the invention to predicting aggregate behavior related to the subject (i.e product) in order to generate a prediction of overall probability of internet activity.

Further, the combination of Tamayo et al and Fulgoni et al does not explicitly teach modeling behavior of off-line population as a function of on-line interest data. Examiner takes official notice that since Tamayo et al teaches predicting the likelihood of a web site visitor purchasing a product based on web usage, it would have been obvious to one of ordinary skill in the art to use the web usage behavior as a way to predict not only on-line transactions, but all transactions, both on- and off-line. It is old and well known that many consumers research product on-line, only to then go to a brick and mortar store to make the purchase. By evaluating on-line data to predict off-line behavior, a more realistic prediction of purchases could be calculated.

As per claim 2, Tamayo et al. teaches wherein the modeling system is further configured to model aggregate behavior of the on-line population as a function of characteristics of the subject to which the behavior is related, the method further comprising inputting to the modeling system data related to characteristics of the subject (See paragraphs 0058, 0080-1, 0104, 0114, 0127-8, 0136, 0140, 0151, 0177-81, 0201-2, which discloses characteristics (attributes, keywords, etc.) of the subject which are used in the model). Tamayo et al does not explicitly teach modeling behavior of off-line population as a function of on-line interest data. Examiner takes official notice that since Tamayo et al teaches predicting the likelihood of a web site visitor purchasing a product based on web usage, it would have been obvious to one of ordinary skill in the art to use the web usage behavior as a way to predict not only on-line transactions, but all transactions, both on- and off-line. It is old and well known that many consumers research product on-line, only to then go to a brick and mortar store to make the purchase. By evaluating on-line data to predict off-line behavior, a more realistic prediction of purchases could be calculated.

As per claim 3, Tamayo et al. teaches training the modeling system with a learning data set, the learning data set including: on-line interest data related to another subject, the another subject related to the subject; and actual aggregate behavior data relating to the another subject (See figures 15 and 16, paragraphs 0034, 0059, 0094-5, 0115-6, 0138-9, 0175, 0185, which discloses training the models of the system using transactional and activity data of the users of the system, the system storing such data for a plurality of users).

As per claim 4, Tamayo et al. teaches wherein the on-line interest data includes on-line usage data (See paragraphs 0034, 0039-40, 0043, 0056, 0068, 0076-81, which discloses collecting data such as click stream data, navigation data, etc.).

As per claim 6, Tamayo et al. teaches wherein the aggregate behavior to be modeled is aggregate economic activity and wherein the aggregate economic activity to be modeled is related to a product (See paragraphs 0070, 0075-81, 0086, 0138, 0175, which discloses that purchase behavior is collected and stored and used to drive a recommendation process recommending products to the user. See also paragraphs 0037, 0068, 0070-3, 0082).

As per claim 7, Tamayo et al. teaches wherein the product is selected from the group consisting of a movie, a video tape, a CD, a DVD, a model of automobile, a book, a toy, an appliance, an electronic device, a pharmaceutical product, and a software product (See paragraphs 0040, 0068, 0070-3, 0084, wherein books and videos are at least discussed).

Claims 11-13 recite equivalent limitations to claims 1-3, respectively, and are therefore rejected using the same art and rationale set forth above.

As per claim 16, Tamayo et al. teaches a method of predicting a measure of aggregate economic activity related to a product, the method comprising:

providing a modeling system configured to model aggregate economic activity of a type of product as a function of aggregate on-line interest data related to products comprising the type, wherein the on-line interest data is based on passive observation of on-line behavior of a subpopulation, wherein the on-line behavior is related to, but different than, the economic activity to be modeled, and wherein the subpopulation comprises a subset of a population that engages in the economic activity to be modeled (See figure 15, paragraphs 0034, 0036, 0039,

0058-9, 0065, 0086, 0112, 0136, 0157, 0229-30, 0234-5, 0239, wherein a modeling system is presented. The system is built to be able to collect data concerning the online behavior of a set of users of a website, and then the system is able to build models and make predictions for these and future users (i.e. the population) based on the data held in the system);

inputting to the modeling system on-line interest data related to a first product comprising the type (See paragraphs 0037-9, 0056-8, 0068, 0071-2, 0080-1, 0084, 0112-5, wherein the users behavior is monitored and data concerning this behavior is input into the model to make predictions. The data is related to a subject (i.e. product that the user is likely to purchase). See also paragraphs 0136, 0138, 0151, 0157, and 0175); and

generating a prediction of the behavior/activity related to the first product with the modeling system (See paragraphs 0070-3, 0084, 0097, 0114, 0136, 0138-9, 0151, 0157-8, 0225, wherein predictions are made concerning future behavior, specifically with regards to purchasing a product).

However, while the system predicts activity related to a product for many users, Tamayo et al. does not expressly disclose predicting aggregate economic activity by the population related to the product.

Fulgoni et al. discloses profiling or generating scoring models wherein data sets are compared to broad demographic data sets to predict the overall probability of a certain internet activity such as buying a product or viewing a video, by all persons sharing that demographic. Both Fulgoni et al. and Tamayo et al. disclose using past data concerning a customer to forecast behavior of customers at websites. Tamayo et al. specifically builds models that are applicable to aggregate customers. Fulgoni et al. teaches predicting aggregate behavior and population

estimates for a population based on data obtained from a subset of the population. It would have been obvious to one of ordinary skill in the art at the time of the invention to predicting aggregate behavior related to the subject (i.e product) in order to generate a prediction of overall probability of internet activity.

Further, the combination of Tamayo et al and Fulgoni et al does not explicitly teach modeling behavior of off-line population as a function of on-line interest data. Examiner takes official notice that since Tamayo et al teaches predicting the likelihood of a web site visitor purchasing a product based on web usage, it would have been obvious to one of ordinary skill in the art to use the web usage behavior as a way to predict not only on-line transactions, but all transactions, both on- and off-line. It is old and well known that many consumers research product on-line, only to then go to a brick and mortar store to make the purchase. By evaluating on-line data to predict off-line behavior, a more realistic prediction of purchases could be calculated.

As per claim 17, Tamayo et al. discloses wherein the modeling system is further configured to model aggregate economic activity of a type of product as a function of characteristics of products comprising the type and inputting to the modeling system data related to characteristics of the first product (See paragraphs 0058, 0080-1, 0104, 0114, 0127-8, 0136, 0140, 0151, 0177-81, 0201-2, which discloses characteristics (attributes, keywords, etc.) of the subject which are used in the model. See also paragraph 0235).

As per claim 18, Tamayo et al. discloses training the modeling system with a learning data set, the learning data set including: on-line interest data related to a second product comprising the type; data related to characteristics of the second product; and aggregate

economic activity data relating to the second product (See figures 15 and 16, paragraphs 0034, 0059, 0094-5, 0115-6, 0138-9, 0175, 0185, which discloses training the models of the system using transactional and activity data of the users of the system, the system storing such data for a plurality of users. See also paragraphs 0037, 0068, 0070-3, 0075-82, 0086, which discloses that purchase behavior is collected and stored and used to drive a recommendation process recommending products to the user).

As per claim 19, Tamayo et al. teaches wherein training the model includes: adding to the learning data set additional data related to characteristics of the second product; and retraining the modeling system with the learning data set (See paragraphs 0072, 0110, 0149, which discloses updating the model for accuracy).

Claims 20-21 recite equivalent limitations to claims 18-19 and are therefore rejected using the same art and rationale set forth above.

As per claim 22, Tamayo et al. teaches wherein the on-line interest data related to the first product includes counts of page hits of a web page related to the first product (See paragraphs 0058, 0068, 0080, 0136-8, 0171, 0175, 0211, 0229-32, 0235, wherein webpage hits related to a product are counted).

As per claim 23, Tamayo et al. teaches wherein the on-line interest data related to the first product includes counts of search queries at a web site that include a phrase related to the first product (See paragraphs 0058, 0175, 0208, 0211, 0225, wherein searches related to a product are monitored).

As per claim 24, Tamayo et al. teaches wherein the on-line interest data related to the first product includes an on-line interest measurement provided by a web site (See paragraphs 0110, 0114, 0152, 0160, and 0183, which discusses interest).

As per claim 26, Tamayo et al. wherein the on-line interest measurement provided by a web site is a percentage of users of the web site initiating searches related to the first product (See paragraphs 0110, 0114, 0152, 0160, and 0183, which discusses interest. See also paragraphs 0132, 0157-8, 0161-2, which discusses percentages of users).

As per claim 27, Tamayo et al. teaches wherein the on-line interest data related to the first product includes aggregate Internet usage data related to the first product (See paragraphs 0058, 0080, 0114, 0136, 0175, 0208, 0211, 0225, wherein internet activity related to the product is recorded).

As per claim 28, Tamayo et al. teaches wherein the aggregate Internet usage data related to the first product includes statistics based on analyses of online events related to the first product (See paragraphs 0059, 0068, 0090, 0094, 0097, 0104, 0128, 0140, 0213, which discusses some statistical techniques used to analyze the behavior).

As per claim 29, Tamayo et al. teaches wherein online events include a result of a client making a request of a server and the server providing a response to the client (See paragraphs 0058, 0175, 0208, 0211, 0225, wherein searches related to a product are monitored).

As per claims 30-31, Tamayo et al. teaches wherein the analyses of online events includes:

automatically associating each online event with one or more subjects (See figure 15, paragraphs 0034, 0036, 0039, 0058-9, 0065, 0086, 0112, 0136, 0157, 0229-30, 0234-5, 0239,

wherein a modeling system is presented. The system is built to be able to collect data concerning the online behavior of a set of users of a website related to one or more subjects);

accumulating counts for events by subject (See Table A, paragraphs 0114-5, wherein number of items are stored); and

identifying one or more categories relevant to each subject (See paragraphs 0059, 0112, 0152, which discloses grouping data);

accumulating counts for events by category (See figure 15, paragraphs 0034, 0036, 0039, 0058-9, 0065, 0086, 0112, 0136, 0157, 0229-30, 0234-5, 0239, wherein data is accumulated for events that occur online); and

However, Tamayo et al. does not expressly disclose outputting the accumulated counts for each subject or for each category.

Tamayo et al. discloses a system that tracks and stores online event data and has the capability to output data. Examiner takes official notice that outputting stored data from a system is old and well known in the art as a way to allow a user to understand the data contained therein. It would have been obvious to one of ordinary skill in the art at the time of the invention to include outputting the data collected by Tamayo et al. in order to allow a user to see and understand the data collected by the system.

As per claim 32, Tamayo et al. teaches wherein the analyses of online events further includes determining if a subject for an event is a canonical equivalent of another subject; and wherein counts for canonical equivalents are accumulated together (See figure 15, paragraphs 0068, 0088, 0112, 0175, 0208, 0210-1, 0225, which discloses keywords and conceptual classes).

As per claim 33, Tamayo et al. wherein the analyses of online events further includes normalizing counts for events over a field of events (See paragraphs 0013, 0031, 0095-6, 0170, 0235, which discloses bringing together the events in a formatted and standardized manner).

However, Tamayo et al. does not expressly disclose outputting the accumulated counts.

Tamayo et al. discloses a system that tracks and stores online event data and has the capability to output data. Examiner takes official notice that outputting stored data from a system is old and well known in the art as a way to allow a user to understand the data contained therein. It would have been obvious to one of ordinary skill in the art at the time of the invention to include outputting the data collected by Tamayo et al. in order to allow a user to see and understand the data collected by the system.

As per claim 34, Tamayo et al. teaches wherein the analyses of online events further includes: determining a set of one or more demographic parameters relating to users that prompt the events (See paragraphs 0058, 0064, 0070-1, 0084, 0086, 0112, 0235, wherein demographic data is integrated with the other data stored in the system); and

using the set of one or more demographic parameters to partition the counts by demographic divisions (See paragraphs 0058, 0064, 0070-1, 0084, 0086, 0112, 0235, wherein the demographic data is linked to online activity to classify such data)

Claim 35 recites equivalent limitations to claim 7 and is therefore rejected using the same art and rationale set forth above.

As per claim 36, Tamayo et al. does not expressly disclose that the predicted measure of economic activity is a predicted number of sales during a period of time. Fulgoni et al teaches

predicting the overall probability of a certain internet activity such as buying a product (column 14, lines 17-31).

Both Fulgoni et al. and Tamayo et al. disclose using past data concerning a customer to forecast behavior of customers at websites. Tamayo et al. specifically builds models that are applicable to aggregate customers. Fulgoni et al. teaches predicting aggregate behavior and population estimates for a population based on data obtained from a subset of the population. It would have been obvious to one of ordinary skill in the art at the time of the invention to predicting aggregate behavior related to the subject (i.e product) in order to generate a prediction of overall probability of internet activity.

As per claim 37, Tamayo et al. teaches wherein the prediction of the behavior/activity is a predicted monetary value of sales during a period of time (See paragraph 0235, which discloses the probability of a recommendation being bought times the profit). However, Tamayo et al. does not expressly disclose that the prediction is an aggregate prediction.

Fulgoni et al. discloses predicting aggregate behavior and population estimates for a population based on data obtained from a subset of the population (column 14, lines 17-31 – predicting aggregate behavior for a population based on data obtained from a subset (i.e., predicts probability of purchase based on education level).

Both Fulgoni et al. and Tamayo et al. disclose using past data concerning a customer to forecast behavior of customers at websites. Tamayo et al. specifically builds models that are applicable to aggregate customers. Fulgoni et al. teaches predicting aggregate behavior and population estimates for a population based on data obtained from a subset of the population. It would have been obvious to one of ordinary skill in the art at the time of the invention to

predicting aggregate behavior related to the subject (i.e product) in order to generate a prediction of overall probability of internet activity.

Claims 38-40 and 41 recite equivalent limitations to claims 16-18 and 20, respectively, and are therefore rejected using the same art and rationale as set forth above.

Claim 42 recites equivalent limitations to claims 27 and 28 and is therefore rejected using the same art and rationale set forth above.

Claim 43 recites equivalent limitations to claims 30-31 and 33 and is therefore rejected using the same art and rationale set forth above.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHNNA R. LOFTIS whose telephone number is (571)272-6736. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on 571-272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/jl/
9/17/08
/Jonathan G. Sterrett/
Primary Examiner, Art Unit 3623